

International Specialists in the Environment
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#### **MEMORANDUM**

DATE:

June 23, 2008

TO:

Renee Nordeen, START-3 Project Manager, E & E, Seattle, WA

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Inorganic Data Summary Check,

Bremerton Gasworks Properties, Bremerton, Washington

REF:

TDD: 07-01-0008

PAN: 002233.0178.01BR

The data summary check of 20 soil samples collected from the Bremerton Gasworks Properties site located in Bremerton, Washington, has been completed. Analysis for total arsenic (EPA CLP SOW ILM05.4) was performed by Bonner Analytical, Hattiesburg, Mississippi.

The samples were numbered:

MJ8K23	MJ8K24	MJ8K25	MJ8K26	MJ8K27
MJ8K28	MJ8K44	MJ8K45	MJ8K46	MJ8K47
MJ8K48	MJ8K54	MJ8K55	MJ8K56	MJ8K57
MJ8K61	MJ8K62	MJ8K63	MJ8K64	MJ8K65

A cursory assessment of the data was provided.



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue, Suite 900 Seattle, Washington 98101

June 17, 2008

Reply To

Attn. Of: OEA-095

### MEMORANDUM

SUBJECT: Data Transmittal for Bremerton Gasworks TBA,

Case# 37435, SDG: MJ8K24, Inorganic Analysis

FROM:

Donald Matheny, Chemist

Environmental Services Unit, OEA

TO:

Joanne LaBaw, Project Manager

Office of Environmental Cleanup (ECL-115)

CC:

Renee Nordeen, Ecology & Environment

The following data are being transmitted for the above project. Twenty (20) soil samples were analyzed for total arsenic by Bonner Analytical, Hattiesburg, MS. Sample numbers for this delivery group are:

MJ8K23	MJ8K24	MJ8K25	MJ8K26	MJ8K27	MJ8K28	MJ8K44
MJ8K45	MJ8K46	MJ8K47	MJ8K48	MJ8K54	MJ8K55	MJ8K56
MJ8K57	MJ8K61	MJ8K62	MJ8K63	MJ8K64	MJ8K65	

A cursory assessment of the data indicates the following: Matrix spike and duplicate analyses were compliant. The arsenic concentration in the serial dilution sample was too low to evaluate ( $<50 \times IDL$ ).

EPA	SAMPLE	NO.
	MJ8K23	

Lab Name:						MJ8K23	
	Bonner A	nalytical Te	sting	Contract: E	PW06055		
Lab Code:	BONNER C	Case No.: 374	NRAS No		SDG	No.: MJ8K24	l
Matrix: (	Soil/Water	s) soil	. Lak	Sample ID:	08050	48-01	
Level: (lo	ow/med)	LOW	Dat	e Received:	05/17	/2008	
% Solids	91.3						
Concentra	ation Unit	s (ug/L or mo	g/kg dry weight):	ma/	Kg		
	CAS NO.	Analyte	Concentration	С	Q	М	
7	7440-38-2	Arsenic	1.08			P	

Color	Before: BROWN	Clarity Béfore:	Texture:	MEDIUM
Color	After: BROWN	Clarity After:	Artifacts: _	
Commer	nts:			
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EPA	SAMPLE	NO.

	MJ8K24	
Lab Name: Bonner Analytical Testing	Contract: EPW06055	
Lab Code: BONNER Case No.: 37435	NRAS No.: SDG No.: MJ8K24	
Matrix: (Soil/Water) SOIL	Lab Sample ID: 0805048-02	
Level: (low/med) LOW	Date Received: 05/17/2008	
% Solids <u>93.5</u>		
Concentration Units (ug/L or mg/kg dry	weight): mg/Kg	
CAS NO. Analyte Conce	ntration C Q M	
7440-38-2 Arsenic	1.98 . P	

Color	Before:_	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After: _	BROWN	Clarity	After:	Marketon .	Artifacts:	
Commer	nts:	•					
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			TW-TV					DIA D	AMPLE NO.
		INOR	GANIC ANALYSI	S DAT	'A SHI	ET		M	J8K25
Lab Name	Bonner A	Analytical Te	sting		Contr	act: EF	W06055		
Lab Code	BONNER	Case No.: 374	35 NRA	s No.	:		SDG	No.: 1	MJ8K24
Matrix:	(Soil/Wate	r) SOIL		Lab	Samp.	le ID:	08050	48-03	
Level: (	low/med)	LOW	<del>vang phina di didukuniya ka ka</del>	Date	e Rec	eived:	05/17	/2008	
% Solids	94.9	**************************************				,			,
Concent	ration Uni	ts (ug/L or mo	g/kg dry weigh	nt):		mq/F	(q		
	CAS NO.	Analyte	Concentrat	ion	С	(	2	М	
	7440-38-2	Arsenic		0.87				P	
								. •	

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Color	After: B	ROWN	Clarity	After:	 Artifacts: _		
Commen	nts:				•		
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EPA	SAMPLE	NO.
	MJ8K26	

		INORG	ANIC ANALYSIS	DATA	SHEET	MJ8K26
Lab Name	e: Bonner 1	Analytical Tes	ting	Co	ntract: E	PW06055
Lab Code	e: BONNER	Case No.: 3743	nras	No.:		SDG No.: MJ8K24
Matrix:	(Soil/Wate	r) SOIL		Lab S	ample ID:	0805048-04
Level:	(low/med)	LOW		Date	Received:	05/17/2008
% Solids	95.4	***************************************				
Concent	ration Uni	ts (ug/L or mg/	kg dry weight	t):	ma/	<u>′Ko</u>
	CAS NO.	Analyte	Concentrati	on	С	Q M
						P

Color	Before:_	BROWN	. (	Clarity	Before:	*****	Texture:	MEDIUM
Color	After: _	BROWN	(	Clarity	After:		Artifacts: _	
Commer	nts:						•	
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EPA	SAMPLE	NO.
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			•				Mo	J8K27
Lab Name	: Bonner	Analytical Tes	sting	Contr	act: EP	W06055		
Lab Code	: BONNER	Case No.: 3743	NRAS N	o.:	· · · · · · · · · · · · · · · · · · ·	SDG	No.: 1	4J8K24
Matrix:	(Soil/Wate	er) SOIL	La	b Samp	le ID:	08050	48-05	
Level: (	low/med)	LOW	Da	te Rec	eived:	05/17	/2008	
% Solids	84.8							
Concent	ration Uni	ts (ug/L or mg	/kg dry weight):		mg/F	( <u>a</u>		
	CAS NO.	Analyte	Concentration	С	(	2	М	
	7440-38-2	Arsenic	1.0	3			P	
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Color	Before: BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After: BROWN	Clarity	After:	***************************************	Artifacts: _	
Commer	nts:					
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	INORGANI	C ANALYSIS DA	ra sheet		MJ8K28
Lab Name: Bonner	Analytical Testin	g	Contract: E	PW06055	
Lab Code: BONNER	Case No.: 37435	NRAS No.		SDG No	.: MJ8K24
Matrix: (Soil/Wate	r) <u>SOIL</u>	Lab	Sample ID:	0805048	-06
Level: (low/med)	LOW	Dat	e Received:	05/17/20	800
% Solids <u>91.8</u>	***************************************	·			
Concentration Uni	ts (ug/L or mg/kg	dry weight):	mq/	Ka	
CAS NO.	Analyte C	oncentration	С	Q I	M
7440-38-2	Arsenic	1.62			2

Color	Before: BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After: BROWN	Clarity	After:		Artifacts:	
Comme	nts:	•				
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			4-74-74-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	·		
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-1	MJ8K44		

		Il	NORGANIC A	NALYSIS DAT	A SHEET		MJ8K44
Lab Name	e: Bonner A	nalytical	Testing		Contract: EF	W0605 <b>5</b>	
Lab Code	BONNER (	Case No.:	37435	NRAS No.	•	SDG No.	: MJ8K24
Matrix:	(Soil/Wate	c) SOIL		Lab	Sample ID:	0805048-0	)7
Level: (	low/med)	LOW		Date	Received:	05/17/200	)8
% Solids	88.4						
Concent	ration Unit	s (ug/L o	ma/ka dr	y weight):	ma/F	ζα	•
34110.0210	CAS NO.	Analyte		entration		2 М	
	7440-38-2	Arsenic		1.46		P	
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Color Be	efore: <u>BRO</u>	ØN	Clarity B	efore:	Te≥	kture:	MEDIUM
Color Ai	fter: <u>BROW</u>	<u>'N</u>	Clarity A	fter:	Art	ifacts:	
Comments	3 <b>:</b>					• .	
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INORGANIC	ANALYSIS	DATA	SHEET

 LPA	SAMPLE	NO.	
	MJ8K45		

	MJ8K45
Lab Name: Bonner Analytical Testing	Contract: EPW06055
Lab Code: BONNER Case No.: 37435	NRAS No.: SDG No.: MJ8K24
Matrix: (Soil/Water) SOIL	Lab Sample ID: 0805048-08
Level: (low/med) LOW	Date Received: 05/17/2008
% Solids <u>92.9</u>	
Concentration Units (ug/L or mg/kg dry	y weight):mq/Ka
CAS NO. Analyte Conc	entration C Q M
7440-38-2 Arsenic	0.80 P

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Color	Before:_	BROWN	Clarity	Before:	Texture:	MEDIUM	
Color	After: _	BROWN	Clarity	After:	 Artifacts:		· · · · · · · · · · · · · · · · · · ·
Comme	nts:						
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 ·EPA	SAMPLE	NO.
]	MJ8K46	

		,	MJ8K4	6
Lab Name: Bonner Analytical	Testing	Contract: EF	W06055	
Lab Code: BONNER Case No.: 3	NRAS NC	·	SDG No.: MJ8K	24
Matrix: (Soil/Water) SOIL	La	b Sample ID:	0805048-09	
Level: (low/med) LOW	Da	te Received:	05/17/2008	
% Solids <u>83.6</u>				•
Concentration Units (ug/L or	mg/kg dry weight):	ma/)	<u>{α</u>	
CAS NO. Analyte	Concentration	С	Q M	
7440-38-2 Arsenic	2.04	1	P	
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Color Before: BROWN	Clarity Before:	Tez	kture:MEDIUN	4
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		MJ8	K	17			

	MJ8K47
Contract: EP	W06055
RAS No.:	SDG No.: MJ8K24
Lab Sample ID:	0805048-10
Date Received:	05/17/2008
ight):mg/K	<u> </u>
ation C C	M
1.01	P
	Contract: EP  RAS No.:  Lab Sample ID:  Date Received:  ight):  mg/K ation C C

Color	Before:_	BROWN	 Clarity	Before:	·	Texture:	MEDIUM
Color	After: _	BROWN	Clarity	After:		Artifacts:	
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LPA	SAMPLE	NO.	
Ē	4J8K48		

•	INORGANIC ANAL	IZZIZ DWIY ZUF?	1.1	MJ8K48
Lab Name: Bonner Analyti	cal Testing	Contrac	t: EPW06055	
Lab Code: BONNER Case No	o.: <u>37435</u>	NRAS No.:	SDG 1	No.: MJ8K24
Matrix: (Soil/Water) SO	IL	Lab Sample	D: 080504	8-11
Level: (low/med) LOW		Date Rece	ived: <u>05/17/</u>	2008
% Solids <u>79.2</u>	**************			
Concentration Units (ug/	L or mg/kg dry w	eight):	mg/Kg	
CAS NO. Analy			Q	. M .
7440-38-2 Arsen	Lc	3.64		P .
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Color Before: BROWN	Clarity Befo	iro:	Texture:	MEDIUM
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Comments:	· ·		ر کو کا چود کی بیان شده دو است.	
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	MJ8K54	And the second s

		20.00	01(0111110 111111					MJ8K54	
Lab Name	: Bonner	Analytical '	Testing	(	Contrac	t: EPW	106055		<u> </u>
Lab Code	BONNER	Case No.: 3	7435	NRAS No.		« <del></del>	SDG 1	No.: MJ8K2	4
Matrix:	(Soil/Wate	er) <u>SOIL</u>		Lab	Sample	ID:	080504	8-12	
Level: (1	low/med)	LOW		Date	e Recei	ved:	05/17/	2008	
% Solids	85.9								
Concent	ation Uni	lts (ug/L or	mg/kg dry w	weight):		mq/Ko	· 3	<del> </del>	
	CAS NO.	Analyte	Concen	tration	С	Q		M	
<b>-</b>	7440-38-2	Arsenic		2.08	;			P	

Color	Before: BROWN	Clarity Be	efore: _		Texture:	MEDIUM
Color	After: BROWN	Clarity Af	fter: _	<u> </u>	Artifacts: _	······································
Comme	nts:					
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EPA	SAMPLE	NO.
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Lab Name: Bonner Analytical Testing	
Matrix: (Soil/Water)         SOIL         Lab Sample ID: 0805048-13           Level: (low/med)         LOW         Date Received: 05/17/2008           8 Solids         89.6           Concentration Units (ug/L or mg/kg dry weight):         mg/Kg           CAS NO.         Analyte         Concentration         C         Q         M	
Level: (low/med) LOW Date Received: 05/17/2008  Solids 89.6  Concentration Units (ug/L or mg/kg dry weight): mg/Kg  CAS NO. Analyte Concentration C Q M	
Concentration Units (ug/L or mg/kg dry weight): mg/Kg  CAS NO. Analyte Concentration C Q M	
Concentration Units (ug/L or mg/kg dry weight): mg/Kg  CAS NO. Analyte Concentration C Q M	
Concentration Units (ug/L or mg/kg dry weight): mg/Kg  CAS NO. Analyte Concentration C Q M	
CAS NO. Analyte Concentration C Q M	
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Color Before: BROWN Clarity Before: Texture: MEDIUM	<del></del>
Color After: BROWN Clarity After: Artifacts:	, ,
Comments:	
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1A-IN					
INORGANIC	ANALYSIS	DATA	SHEET		

EPA	SAMPLE	NO	٠
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Lab Name	: Bonner A	Analytical Tes	ting	Contra	act: EF	W06055		
Lab Code	BONNER	Case No.: 3743	5 NRAS No.	:		SDG	No.: MJ8F	24
Matrix:	(Soil/Wate	r) SOIL	Lab	Sampl	Le ID:	08050	48-14	
Level:	low/med)	LOW	Dat	e Rece	eived:	05/17	/2008	
% Solids	84.9			•				
Concent	ration Uni	ts (ug/L or mg	/kg dry weight):		mg/F	<u>ζα</u>		•
	CAS NO.	Analyte	Concentration	C	(	2	М	
	7440-38-2	Arsenic	1.78	······································		<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	P	

Color	Before: BR	OWN	Clarity	Before:		Texture:	MEDIUM
Color	After: BRO	OWN	Clarity	After:	***************************************	Artifacts: _	
Comme	nts:		. *				
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EPA	SAMPLE	NO.
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			MJ	8K57
Lab Name: Bonner Analytical	Testing	Contract: E	1PW06055	
Lab Code: BONNER Case No.:	37435 NRAS	No.:	SDG No.: M	J8K24
Matrix: (Soil/Water) SOIL		Lab Sample ID:	0805048-15	
Level: (low/med) LOW	]	Date Received:	: 05/17/2008	
% \$olids <u>77.9</u>				
Concentration Units (ug/L or	r mg/kg dry weight	): <u> </u>	/Ka	
CAS NO. Analyte	Concentratio	n C	Q M	
7440-38-2 Arsenic	1.	52	P	
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Color Before: BROWN	Clarity Before: _		exture: MEI	MUIC
Color After: BROWN	Clarity After:	A3	ctifacts:	
Comments:				

EPA	SAMPLE	NO.

	INORGANIC ANAI	LYSIS DATA SHE	ET	1	4J8K61
Lab Name: Bonner Analytica	l Testing	Contra	act: EPW(	06055	
Lab Code: BONNER Case No.:	37435	NRAS No.:		SDG No.:	MJ8K24
Matrix: (Soil/Water) SOIL		Lab Samp	le ID: _	805048-1	5
Level: (low/med) LOW		Date Rece	eived: (	5/17/2008	3
% Solids 79.6	•				
Concentration Units (ug/L <	or ma/ka drv w	eight):	mg/Kg		
CAS NO. Analyte	<del></del>	ration C	Q	М	
7440-38-2 Arsenic		2.04		Р	
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Color Before: BROWN	Clarity Befo	ore:	Text	ure:	4EDIUM .
Color After: BROWN	Clarity Afte	92:	Arti	facts:	
Comments:					

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EPA	SAMPLE	NO.
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					MJ8K62
Lab Name: Bonner Ana	alytical Testin	g Co	ontract: EP	W06055	
Lab Code: BONNER Ca	se No.: 37435	NRAS No.:		SDG No	.: MJ8K24
Matrix: (Soil/Water)	SOIL	Lab S	Sample ID:	0805048	-17
Level: (low/med) LO	W	Date	Received:	05/17/2	008
% Solids <u>76.7</u>					
Concentration Units	(ug/L or mg/kg	drv weight):	mq/K	ia .	
CAS NO.	Analyte Co	oncentration	c c	<del></del>	М
7440-38-2 A	Arsenic	3.71			P
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Color Before: BROWN			Tex		MEDIUM
Color After: BROWN		y After:	Art	ifacts:	
Comments:					
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EPA	SAMPLE	NO.	
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		INORG	ANIC ANALYSIS	5 DATA	SHEET		MJ8K6:	3
Lab Name:	Bonner 2	Analytical Tes	ting	Co	ntract: EE	W06 <b>0</b> 55		
Lab Code:	BONNER	Case No.: 3743	5 NRAS	No.:		SDG	No.: MJ8K	24
Matrix: (S	Soil/Wate	r) <u>SOIL</u>	· .	Lab S	ample ID:	08050	48-18	· · · · · · · · · · · · · · · · · · ·
Level: (lo	w/med)	LOW	900	Date	Received:	05/17	/2008	
% Solids .	77.9	·						
Concentra	tion Uni	ts (ug/L or mg,	/kg dry weigh	t):	ma/I	<u> </u>		
	CAS NO.	Analyte	Concentrati	on .	С	Q	М	
7	440-38-2	Arsenic	, , , , , , , , , , , , , , , , , , ,	2.70	Ũ	·	P	•

Color	Before:H	BROWN	Clarity	Before:		Texture:	MEDIUM
Color	After: B	ROWN	Clarity	After:	***************************************	Artifacts: _	
Commer	nts:					•	
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		TNC	JRGANIC	ANALYSIS DA	IA SHI	፫- <u>የ</u> - ፲		MJ8K64	
Lab Name	Bonner A	nalytical T	Pesting		Contr	act: EP	W06055		-
Lab Code	BONNER C	Case No.: <u>37</u>	435	NRAS No	. :		SDG 1	10.: MJ8K2	4
Matrix:	(Soil/Water	soil		Lab	Samp	le ID:	080504	8-19	
Level: (	(low/med) _1	LOW		Dat	e Rec	eived:	05/17/	2008	
% Solids	78.0	·							
Concent	ration Unit	s (ug/L or	mg/kg d	ry weight):	_	mq/K	.a		
	CAS NO.	Analyte	<del></del>	centration	С	Ç	2	М	
	7440-38-2	Arsenic		1.39			······································	P	
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CNORGANIC	ANALYSIS	DATA	SHEET

 EPA	SAMPLE	NO.	
	MJ8K65		

		I.	NORGANIC AND	ALYSIS DAT	A SHEE	I.		MJ8K65
Lab Name:	Bonner 1	Analytical	Testing	(	Contrac	t: EPWC	6055	M-1
Lab Code:	BONNER	Case No.:	37435	NRAS No.	*		SDG No.	: MJ8K24
Matrix: (	Soil/Wate	r) SOIL		Lab	Sample	D: 0	805048-2	20
Level: (1	ow/med)	LOW		Date	e Recei	.ved: <u>0</u>	5/17/200	)8
% Solids	86.1							
Concentr	ation Uni	ts (ug/L o	r mg/kg dry	weight):		mg/Kg		
	CAS NO.	Analyte		itration	С	· Q	М	
<u>[.7</u>	7440-38-2	Arsenic	Weeklerman in the second se	1.17			P	
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Color Aft	er: _BROW		Clarity Aft				 facts: _	
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